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| 09/877,852      | 06/08/2001  | Mark J. Kilgard      | NVIDP035/P000321    | 1313             |

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EXAMINER

AMINI, JAVID A

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/877,852 | <b>Applicant(s)</b><br>KILGARD ET AL. |  |
|                              | <b>Examiner</b><br>Javid A Amini     | <b>Art Unit</b><br>2672               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

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***Response to Amendment***

Applicant's arguments with respect to claims 22-36 have been considered but are moot in view of the new ground(s) of rejection.

- ❖ Applicant cancelled claims 1-21 and added new claims 22-36.
- ❖ Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. See Fig. 1A of publication of US 6,198,488 B1.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22, 23, 26-30 and 33-36 rejected under 35 U.S.C. 102(b) as being anticipated by Baldwin.

1. Claim 22.

“(a) mapping a convention-defined vertex parameter with an application-defined identifier, wherein the application-defined identifier is definable by an application-defined vertex program and wherein the convention-defined vertex parameter is associated with vertex data”.

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The step is inherent because in order to process vertex data, the procedures should have identifiers that associated with vertex data, otherwise how would be acknowledged a plurality of parameters associated with vertex data? (An application-defined identifier is any text string used as a label, such as the name of a procedure or a variable in a program, similar to an index entry in a book that identifies a significant topic or element in a stored document or group of documents. In programming, a piece of stored information used to describe something else.), “retrieving the vertex data associated with the convention-defined vertex parameter by calling the application-defined identifier”, Baldwin discloses in (col. 9, lines 23-67) the application generates the triangle vertex information (examiner’s interpretation: considered as a convention-defined identifier) and makes the necessary OpenGL calls to draw it. The OpenGL server/library (application) gets (retrieves) the vertex information, transforms, and clips and lights it. It calculates the initial values and derivatives for the values to interpolate ( $X_{\text{left}}$ ,  $X_{\text{right}}$ , red, green, blue and depth) for unit change in  $dx$  and  $dx dy_{\text{left}}$ . All these values are in fixed-point integer and have unique message tags. Baldwin discloses in (col. 7, lines 25-49) in this system all the processing blocks (plurality of parameters) are connected (mapping) in a long pipeline with communication with the adjacent blocks being done through message passing. Baldwin in (col. 9, lines 34-46) that the application generates the triangle vertex information and makes the necessary OpenGL calls to draw it (graphical output).

2. Claim 23.

“wherein the convention-defined vertex parameter comprises an openGL defined parameter”.

Baldwin in abstract discloses that the pipeline sequence can be configured for compliance with

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specifications such as OpenGL, but may also be optimized by reconfiguring the pipeline sequence to eliminate unnecessary processing.

3. Claim 26.

“wherein the application-defined identifier corresponds to a vertex attribute register”. Baldwin in (col. 12, lines 23-67) teaches that an application-defined identifier corresponds to a vertex attribute register

4. Claim 27.

The step of “receiving a convention-defined vertex parameter” is inherent because, Baldwin discloses in (col. 9, lines 23-67) the application generates the triangle vertex information (examiner’s interpretation: considered as a convention-defined identifier) and makes the necessary OpenGL calls to draw it. The OpenGL server/library (application) gets (retrieves) the vertex information, transforms, and clips and lights it. It calculates the initial values and derivatives for the values to interpolate ( $X_{left}$ ,  $X_{right}$ , red, green, blue and depth) for unit change in  $dx$  and  $dx dy_{left}$ . All these values are in fixed-point integer and have unique message tags.. The step of “determining an application-defined vertex-attribute identifier associated with the convention-defined vertex parameter” is inherent because in order to process vertex data, the procedures should have identifiers that associated with vertex data, otherwise how would be acknowledged a plurality of parameters associated with vertex data? (An application-defined identifier is any text string used as a label, such as the name of a procedure or a variable in a program, similar to an index entry in a book that identifies a significant topic or element in a stored document or group of documents. In programming, a piece of stored information used to describe something else.), Baldwin discloses in (col. 7, lines 25-49) in this system all the

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processing blocks (plurality of parameters) are connected (mapping) in a long pipeline with communication with the adjacent blocks being done through message passing. “passing the determined application-defined vertex-attribute identifier to an application-programmable vertex program”. Baldwin in (col. 9, lines 34-46) that the application generates the triangle vertex information and makes the necessary OpenGL calls to draw it (graphical output).

5. Claim 28.

“retrieving the vertex data associated with the convention-defined vertex parameter by calling the application-defined vertex-attribute identifier; and generating a graphical output using the retrieved vertex data”. Baldwin in (col. 12, lines 23-67) teaches the step.

6. Claim 29.

“mapping an application-defined identifier to a convention-defined vertex parameter, wherein the application-defined identifier is definable by an application-defined vertex program and wherein the application-defined identifier is associated with vertex data; retrieving the vertex data associated with the application-defined identifier by calling the convention-defined vertex parameter; and generating a graphical output using the retrieved vertex data”. See rejection of claim 22.

7. Claim 30.

“wherein the convention-defined vertex parameter comprises an openGL defined parameter”. Baldwin in abstract discloses that the pipeline sequence can be configured for compliance with specifications such as OpenGL, but may also be optimized by reconfiguring the pipeline sequence to eliminate unnecessary processing.

8. Claim 33.

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“wherein the application-defined identifier corresponds to a vertex attribute register”. Baldwin in (col. 12, lines 23-67) teaches that an application-defined identifier corresponds to a vertex attribute register.

9. Claim 34.

The step of “receiving a convention-defined vertex parameter” is inherent because, Baldwin discloses in (col. 9, lines 23-67) the application generates the triangle vertex information (examiner’s interpretation: considered as a convention-defined identifier) and makes the necessary OpenGL calls to draw it. The OpenGL server/library (application) gets (retrieves) the vertex information, transforms, and clips and lights it. It calculates the initial values and derivatives for the values to interpolate ( $X_{left}$ ,  $X_{right}$ , red, green, blue and depth) for unit change in  $dx$  and  $dx dy_{left}$ . All these values are in fixed-point integer and have unique message tags.. The step of “identifying a convention-defined vertex- parameter associated with the application-defined vertex-attribute identifier” is inherent because in order to process vertex data, the procedures should have identifiers that associated with vertex data, otherwise how would be acknowledged a plurality of parameters associated with vertex data? (An application-defined identifier is any text string used as a label, such as the name of a procedure or a variable in a program, similar to an index entry in a book that identifies a significant topic or element in a stored document or group of documents. In programming, a piece of stored information used to describe something else.), Baldwin discloses in (col. 7, lines 25-49) in this system all the processing blocks (plurality of parameters) are connected (mapping) in a long pipeline with communication with the adjacent blocks being done through message passing. “passing the identified convention-defined vertex parameter to a vertex transformer”. Baldwin in (col. 9, lines

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34-46) that the application generates the triangle vertex information and makes the necessary OpenGL calls to draw it (graphical output).

10. Claim 35.

“passing the identified convention-defined vertex parameter to a GL vertex transformer”, Baldwin in abstract discloses that the pipeline sequence can be configured for compliance with specifications such as OpenGL, but may also be optimized by reconfiguring the pipeline sequence to eliminate unnecessary processing.

11. Claim 36.

“retrieving the vertex data associated with the application-defined vertex-attribute identifier by calling the convention-define vertex parameter; and generating a graphical output using the retrieved vertex data”, Baldwin in (col. 12, lines 23-67) teaches the step.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 25, 31 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin, and further in view of Lindholm et al.

12. Claim 24.

“wherein the convention-defined vertex parameter comprises a D3D defined parameter”.

Baldwin does not explicitly specify a D3D parameter, however, Lindholm et al. in col. 6, lines



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64-67) teach a D3D defined parameter. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lindholm et al. into Baldwin in order to be more efficient, further the governing code might be written more efficiently when the multiple threading scheme is assumed to be used.

13. Claim 25.

“retrieving additional vertex data by calling the convention-defined vertex parameter”. Baldwin does not explicitly specify retrieving additional vertex data. However, Lindholm et al. Illustrates in Fig. 14D step 1470. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lindholm et al. into Baldwin in order to be more efficient, further the governing code might be written more efficiently when the multiple threading scheme is assumed to be used.

14. Claim 31.

“wherein the convention-defined vertex parameter comprises a D3D defined parameter”.

Baldwin does not explicitly specify a D3D parameter, however, Lindholm et al. in col. 6, lines 64-67) teach a D3D defined parameter. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lindholm et al. into Baldwin in order to be more efficient, further the governing code might be written more efficiently when the multiple threading scheme is assumed to be used.

15. Claim 32.

“retrieving additional vertex data by calling the convention-defined vertex parameter”. Baldwin does not explicitly specify retrieving additional vertex data. However, Lindholm et al. Illustrates in Fig. 14D step 1470. Thus, it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to incorporate the teaching of Lindholm et al. into Baldwin in order to be more efficient, further the governing code might be written more efficiently when the multiple threading scheme is assumed to be used.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-8705 for regular communications and 703-746-8705 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini  
Examiner  
Art Unit 2672

Javid Amini  
July 16, 2003



**MICHAEL RAZAVI**  
**SUPERVISORY PATENT EXAMINER**  
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